

CLAIMS

1. Actuator for a parking brake of a motor vehicle, comprising an electric motor (1), having a rotor (2) with a threaded spindle (3), on which a spindle nut (4) is arranged, wherein between the threaded spindle (3) and the spindle nut (4) there are rolling bodies (5) in rolling engagement with threaded paths (6, 7) formed on the spindle nut (4) and the threaded spindle (3), and wherein a cable pull (8) engages the spindle nut (4) for activating a brake.
2. Actuator according to Claim 1, wherein the threaded spindle (3) is arranged coaxial to the rotor (2) and is provided with a second threaded path section of opposite slope, wherein another spindle nut (4) is arranged on the second threaded path section and wherein another cable pull (8) engages on the second spindle nut (4) so that cable pulls are engaged on each of the spindle nuts.
3. Actuator according to Claim 1, wherein ball screws (9) are used, wherein the rolling bodies are formed by balls (5a), which circulate in endless ball raceways (10), which are defined by the threaded paths (6, 7) of the threaded spindle (3) and the spindle nut (4).
4. Actuator according to Claim 1, wherein a locking device (11) is provided, which prevents rotation of the rotor (2) and thus the threaded spindle (3) when no current flows to the electric motor (1).
5. Actuator according to Claim 4, wherein the locking device (11) has a first locking element (12) fixed in rotation with the rotor (2) and a movable second locking element (13), wherein in a locking position the two locking elements (12, 13) engage each other with a positive fit for preventing rotation of the rotor (2).

6. Actuator according to Claim 5, wherein an electromagnet (14) fixed to the frame acts on the second locking element (13), which moves into the locking position through activation of the electromagnet (14).

7. Actuator according to Claim 5, wherein the first locking element (12) has a toothed disk (15) fixed in rotation with the rotor (2) and on whose periphery several teeth (16) are distributed having gaps (17) provided therebetween.

8. Actuator according to Claim 5, wherein the second locking element has a piston (18) for engagement with the first locking element (12).

9. Actuator according to Claim 8, wherein a spring force acts on the piston (18), wherein the piston (18) is moveable against the spring force into the locking position.

10. Actuator according to Claim 7, wherein the piston (18) engages in one of the gaps (17) of the toothed disk (15) in the locking position of the locking device (11).

11. Actuator for a parking brake of a motor vehicle, comprising an electric motor (1), having a rotor (2) that drives a control element, wherein a locking device (11) is provided for positive-fit locking of the actuator, and with an emergency unlocking device (19) for relaxing the locking device (11) from a load applied for applying the brakes.

12. Actuator according to Claim 11, wherein the emergency unlocking device (19) has a band (20), which is arranged perpendicular to the rotor axis and which wraps around a contact surface (21) arranged coaxial to an axis of the rotor.

13. Actuator according to Claim 12, wherein the band (20) is provided with a catch (22) for active engagement with a counter catch (17) locked in rotation to the rotor

(2), wherein, in active engagement, the band (20) prevents rotational movement of the rotor (2).

14. Actuator according to Claim 13, wherein the band (20) is arranged for movement in a longitudinal direction.

15. Actuator according to Claim 13, wherein the rotor (2) is provided with a toothed disk (15), having several teeth (16) distributed over a periphery thereof, the periphery including gaps (17) formed between the teeth, wherein, in active engagement, the catch (22) of the band (20) engages in one of the gap (17) forming the counter catch.

16. Actuator according to Claim 15, wherein the band (20) has a pocket (24), which is defined by a belt (23) arranged in a longitudinal direction of the band (20) and by the catch (22) and in which the teeth (16) of the toothed disk (15) engage.

17. Actuator according to Claim 1, wherein a housing (25) of the actuator is provided with a connecting member (26), on which the spindle nut (4) is locked in rotation.

18. Actuator according to Claim 11, wherein the control element is formed by a ball screw (9) or other rotary transmission gearing.